

WHAT IS CLAIMED IS:

1. An disk array apparatus comprising:
a controller having a communication control unit for accepting a data input/output request, a disk controller unit for controlling a disk drive, and a cache memory for temporarily storing data transferred between said communication control unit and said disk controller unit; and
a plurality of disk drives having different communication interfaces and connected to said disk controller unit to communicate with the disk controller unit.
2. The disk array apparatus as set forth in claim 1, wherein said disk controller unit and said plurality of disk drives are connected by a loop-shaped connection line to communicate therewith.
3. The disk array apparatus as set forth in claim 2, wherein a communication scheme of said connection line conforms to one of said communication interfaces.
4. The disk array apparatus as set forth in claim 2, wherein said disk drive having the communication interface not conforming to the communication scheme of said connection line is connected to said connection line via a converter for making the communication scheme of said communication interface conform to said communication scheme.
5. The disk array apparatus as set forth in

claim 2, wherein said loop-shaped connection line is a connection line which can communicate based on a FC-AL (Fiber Channel Arbitrated Loop) scheme.

6. The disk array apparatus as set forth in claim 1, wherein a serial ATA drive and an FC drive are included in the plurality of disk drives having different communication interfaces.

7. The disk array apparatus as set forth in claim 1, wherein the disk drives having the identical communication interfaces are housed in an identical casing, and said casing includes a cooling device which can control a cooling capability for each casing.

8. The disk array apparatus as set forth in claim 7, further comprising means for controlling the cooling capability of said cooling device according to operational states of the disk drives housed in said casing.

9. The disk array apparatus as set forth in claim 8, wherein said cooling device is a cooling fan, and said means for controlling the cooling capability of said cooling device controls a rotational speed of said cooling fan.

10. The disk array apparatus as set forth in claim 7, further comprising means for operating said cooling device in its low-power-consumption mode when operations of all the disk drives housed in said casing are stopped.

11. The disk array apparatus as set forth in

claim 1, further comprising means for causing said disk controller unit and a power controller for controlling power supply to said disk drives to be connected to specific one of said disk drives to communicate with each other.

12. The disk array apparatus as set forth in claim 11, further comprising means for changing the disk drive to be operated as said specific disk drive at set timing.

13. The disk array apparatus as set forth in claim 11, wherein said specific disk drive is an FC drive.

14. The disk array apparatus as set forth in claim 1, further comprising means for controlling operations of each group of disk drives having said communication interfaces of an identical communication scheme in units of group.

15. The disk array apparatus as set forth in claim 1, further comprising:

a cooling device for cooling said disk array apparatus; and

means for controlling a cooling capability of said cooling device according to operational states of a group of disk drives having said communication interfaces of an identical communication scheme.

16. A method for controlling a disk array apparatus, said apparatus comprising:

a controller having a communication control

unit for accepting a data input/output request, a disk controller unit for controlling a disk drive, and a cache memory for temporarily storing data transferred between said communication control unit and said disk controller unit; and

a plurality of disk drives having different communication interfaces and connected to said disk controller unit to communicate with the disk controller unit,

said method comprising the steps of:

causing said disk controller unit and a power controller for controlling power supply to said disk drives to be connected to specific one of said disk drives to communicate therewith; and

changing the disk drive to be operated as said specific disk drive at set timing.

17. A method for controlling a disk array apparatus, said apparatus comprising:

a controller having a communication control unit for accepting a data input/output request, a disk controller unit for controlling a disk drive, and a cache memory for temporarily storing data transferred between said communication control unit and said disk controller unit; and

a plurality of disk drives having different communication interfaces and connected to said disk controller unit to communicate with the disk controller unit,

said method comprising the step of
controlling operation of each group of disk drives
having said communication interfaces of an identical
communication scheme on a group-by-group basis.

18. The method as set forth in claim 17, wherein
said disk array apparatus includes a cooling device for
cooling interior of said disk array apparatus, and the
cooling capability of said cooling device is controlled
according to an operational state of each group of disk
drives having said communication interfaces of an
identical communication scheme on a group-by-group
basis.